

## **REMARKS**

### **Status of the Claims**

Claims 1, 3-6, 11-16 are presently pending in this application.

### **New Claims**

Claims 14-16 have been added to more particular claim the curling iron of the present invention, which is “configured to heat the hair of a user primarily through the use of conduction.” Claim 14 is substantially similar to previously cancelled claim 7. It is believed that this amendment does not add new matter and support for the additional limitation of Claim 14 can be found in paragraph [0012] of the specification of the present application. Claims 15 and 16 are similar to cancelled claims 8 and 9 and consequently do not add new matter. Claim 8 had been previously objected to as duplicative of Claim 10. However, because Claim 10 is presently cancelled, this objection does not apply to cancelled Claim 8 or present Claim 15.

### **Claim Rejections - 35 U.S.C. § 112**

The Office action rejected Claim 3 “under 35 USC § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.” Office Action at 2. In particular, the Office Action stated that “Claim 3, line 1, “the device” lacks a prior antecedent. *Id.* Applicants respectfully traverse this rejection.

Claim 3 has been amended to clarify that the “device” is a “flat straightener.” In light of the present amendment, Applicants respectfully request that the present rejection be withdrawn.

### **Claim Rejections - 35 U.S.C. § 103**

“Claims 3, 5, 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Leung (United States Patent Publication No. 2003/0052115) in view of Nakagawa et al. (United States

Patent Publication No. 2002/0189128) and Lo (US 2003/0071027).” Office Action, at 2.

Applicants respectfully traverse this rejection.

Leung discloses a hair styling device that heats hair by conduction of heat from a heated surface (see para 0028) and includes a fan and a motor. The device further comprises a handle portion 100, a barrel portion 300 adjoining the handle portion, a heater 216 contained in the barrel portion, a flipper 303 mechanically linked to a flipper actuator, air inlets in the housing, an air guide 119 for directing air into the barrel; a[n]d outlet holes 307 formed in the barrel. Leung does not disclose the ion generator or the device being a flat straight[e]ner. Nakagawa et al. disclose a hair styling appliance having an ion generator system 62. The ion generator system comprises an anode pin and a cathode ring. The device further includes an indicator LED 9 for the ion generator. It would have been obvious to one skilled in the art to provide the curling iron of Leung with an ion generator system in view of Nakagawa et al. in order to treat the hair and make it smooth and silky. Lo teaches a curling iron and a straight[e]ner (see Figures 4-7). It would be obvious to one having ordinary skill in the art at the time the invention was made to modify the device of Leung by having the device be a flat straight[e]ner as shown in Lo, in order to allow the user multiple functions to straight[e]n[] the user's hair.

Office Action, at 2-3. In summary, the Office Action appears to contend that Leung discloses a hot air curling iron, which can readily be modified in light of Nakagawa's teaching of a “hairdryer” including an ion generation system to arrive at a “first combination.” The Office Action further contends that this “first combination” can be further modified in view of the Lo reference's disclosure to arrive at a “second combination,” which the Office Action contends practices the inventions claimed by pending claims 3, 5, and 6.

A proper obviousness rejection requires both a motivation to combine and a reasonable likelihood of success in the combination. MPEP §§ 2143.01, 2143.02. At least with respect to the “second combination” (Leung/Nakagawa and Lo), the present Office Action s fails on both counts. The Office Action claims that the alleged motivation for the “second combination” would be to “allow the user multiple functions to straight[e]n[] the user's hair.” With respect to

reasonable likelihood of success, the present Office Action appears to assume that the “second combination” is within the “ordinary skill in the art” without stating a basis for this assumption. Because the Office Action has failed to establish either a motivation to combine or a reasonable likelihood of success, Applicants respectfully contend that the rejection under § 103 is improper and should be withdrawn.

The Leung reference discloses a hot air curling iron which applies heat to a user’s hair by directing the flow of heated air onto a user’s hair for the purpose of making the hair amenable to styling. [Leung ¶ 0028] The Nakagawa reference also discloses a device which directs the flow of heated air onto a user’s hair, which in the case of the Nakagawa reference is for the purpose of drying hair that is presumably wet. [Nakagawa, 1:5-8] In general terms, both the Leung reference and the Nakagawa reference are based on the transfer of heat to a user’s hair through the principle of convection. Although the devices disclosed by these references may incidentally transfer heat through other processes such as radiation or conduction, both of the references rely on the generation and control of air flow to accomplish their respective goals.

In contrast to Nakagawa and Leung, the Lo reference discloses a device which is based on transferring heat directly to the hair of an intended user. [Lo ¶0005.] Because convection is not the primary mode of operation of the Lo reference’s disclosure, the Lo reference contains no discussion regarding the generation or control of air flow. Consequently, the Lo reference discloses a device that is primarily based on conduction.

Applicants respectfully submit that the proposed “second combination” is improper because “it would change the principles of operation of the prior art inventions being modified.” *See* MPEP §§ 2143.01 (VI). As previously explained by Applicants, there is a significant difference between hair styling devices based on convection and hair styling devices based on

conduction. *See* September 24, 2009 BPAI Decision, at 3. The “second combination” as asserted by the present Office Action assumes that a hot air curling iron can readily be combined with a flat straightener as disclosed in the Lo reference. As explained above, this would require somehow merging the teaching of Leung and Nakagawa which are primarily focused on air flow with the teachings of Lo, which makes no mention of air flow at all. The impropriety of the Office Action’s proposed modification is further supported by the Leung and Nakagawa references themselves which contain no mention of hair straightening at all. This omission is likely due to the difficulty in straightening hair using a device based on the flow of heated air. The Office Action’s “first combination” assumes the combinability of Leung’s “hot air curling iron” and Nakagawa’s “Hairdryer,” but the further combination of that hypothetical device with a flat straightener goes well beyond the knowledge of a person of ordinary skill in the art or the teachings of any of the three references cited in the present Office Action. Consequently, Applicants respectfully submit that the present Office Action has not established a *prima facie* case of obviousness with respect to motivation to combine and therefore the present rejection should be withdrawn.

Moreover, because of the fundamental differences between conduction and convection as explained above, the Office Action must do more than assume that the “second combination” is reasonably likely to succeed in order to establish a *prima facie* case of obviousness. *See* MPEP § 2143. Because the Office Action does not state its basis for a reasonable likelihood of success in combining the Leung, Nakagawa and Lo references, it is difficult for Applicants to address the Office Action’s premise. Nevertheless, the Office Action does states that “Lo teaches a curling iron and a straight[e]ner (see Figures 4-7),” which may suggest that a curling iron and straightener are alleged to be interchangeable. Office Action, p. 3. As an initial matter, Lo does

not teach that such devices are interchangeable, rather it teaches a single conduction-based device which includes both curling iron functionality as well as hair straightening functionality. Therefore, the Office Action's implication is false. Even to the extent that Lo could be considered to teach interchangeability of a curling iron and straightener, which Applicants dispute, Lo's disclosure is limited to conduction-based devices. The Office Action contains no basis to suggest or establish that all forms of curling irons are interchangeable with all forms of straighteners. As noted above, neither Leung nor Nakagawa make any mention of straightening hair, which is a noteworthy omission given that the Office Action is premised on converting the combination of Leung and Nakagawa into a straightener. Therefore, given the differences between the Leung, Nakagawa, and Lo references and the fact that the present Office Action contains no evidence supporting a reasonable likelihood of success in combining these references, Applicants respectfully submit that the rejection based on § 103 is improper and should be withdrawn.

#### **Claims not addressed in the Present Office Action**

Although the cover sheet of the present Office Action indicates that "Claim(s) 3, 5, 6 and 11-13 is/are rejected" the present office action does not address all pending claims. In particular, the Office Action does not contain a rejection of Claims 11-13 of the present application. Applicants respectfully submit that claims 11-13 are in condition for allowance.

#### **SUMMARY OF RESPONSE**

In light of the above amendments and remarks, Applicants respectfully submit that all claims are in condition for allowance.

Respectfully submitted,

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